



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/750,348	12/29/2000	Igor Shvets	1817-0105P	6900

2292 7590 02/27/2002

BIRCH STEWART KOLASCH & BIRCH  
PO BOX 747  
FALLS CHURCH, VA 22040-0747

EXAMINER

GITOMER, RALPH J

ART UNIT PAPER NUMBER

1623

DATE MAILED: 02/27/2002

8

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/750,348

Applicant(s)

Shvets et al.

Examiner

Ralph Gitomer

Art Unit

1623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on Dec 21, 2001
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-108 is/are pending in the application.
- 4a) Of the above, claim(s) 65-108 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-64 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some\* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892) 18) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 19) ☐ Notice of Informal Patent Application (PTO-152)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 4 20) ☐ Other: \_\_\_\_\_

Applicant's election with traverse of Group I, claims 1-64, in Paper No. 7 is acknowledged. The traversal is on the ground(s) that it would not be a serious burden to consider all the claims. This is not found persuasive because of reasons of record.

The requirement is still deemed proper and is therefore made FINAL.

An amendment was submitted 3/22/2001 to page 3 of the specification but is inconsistent with the explanation of the amendment. Further, there may be confusion between a patent number and a patent specification number which is improper.

It would appear the point of novelty of the invention resides in the coating within the capillary channels.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 5-17, 20, 22, 24 are rejected under 35 U.S.C. 102(b) as being anticipated by Li.

Li (Anal Chem) entitled ~~Transport~~ Transport, Manipulation, and  
Reaction of Biological Cells On-Chip Using Electrokinetic  
Effects teaches in the abstract, a microfluidic system to study  
cell mobilization within a network of capillary channels. On  
5 page 1565 column 2 the chips were coated internally using  
AquaSil.

All the features of the claims are taught by Li for the same  
function as claimed. Regarding the arrangement of the channels,  
see page 1566 photos and the Fig. 1 on page 1565.

The following is a quotation of 35 U.S.C. 103(a) which forms  
the basis for all obviousness rejections set forth in this Office  
action:

15 (a) A patent may not be obtained though the invention is not identically  
disclosed or described as set forth in section 102 of this title, if the  
differences between the subject matter sought to be patented and the prior  
art are such that the subject matter as a whole would have been obvious at  
20 the time the invention was made to a person having ordinary skill in the  
art to which said subject matter pertains. Patentability shall not be  
negated by the manner in which the invention was made.

This application currently names joint inventors. In  
considering patentability of the claims under 35 U.S.C. 103(a),  
25 the examiner presumes that the subject matter of the various  
claims was commonly owned at the time any inventions covered  
therein were made absent any evidence to the contrary. Applicant  
is advised of the obligation under 37 CFR 1.56 to point out the  
inventor and invention dates of each claim that was not commonly

owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103<sup>©</sup> and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

5

Claims 2-4, 18, 19, 21, 23, 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Li.

Li (Anal Chem) entitled ~~✕~~Transport, Manipulation, and Reaction of Biological Cells On-Chip Using Electrokinetic Effects~~✕~~ teaches in the abstract, a microfluidic system to study  
10 cell mobilization within a network of capillary channels. On page 1565 column 2 the chips were coated internally using AquaSil.

Claims 2-4 differ from Li in that they specify the coating  
15 within the channels may be a protein or cells. Claims 18 and 19 specify there is more than one cell type in the suspension and claim 25 is directed to different liquids. Claims 21 and 23 refer to a chemoattractant,

It would have been obvious to one of ordinary skill in the  
20 art at the time the invention was made to coat the channels with different substances because Li teaches several different coatings directed to preventing cells and other materials from sticking to the walls of the channels. No function is claimed for the coatings in the claims.

25

Regarding using more than one cell type or liquid type, Li employs three different types of cells separately and different liquids as desired.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to run the same cells sequentially or in parallel for the same function in view of the teachings of Li because the result would be the same. The liquids employed with the expected result would have been obvious and no function of any liquid is claimed.

Regarding chemoattractants, their function is well known in this art.

Claims 2-64 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Each of the following applies in all occurrences.

In claim 2 the internal bore lacks antecedent basis. In claim 4 line 2, with an is awkward. In claim 9 line 2 stead is queried. Claims 18 and 19 are duplicates. In claim 21 the types of cell lacks antecedent basis. In claim 21 that cell type does not specify what cell type. In claim 23 preferred Markush terminology is selected from the group consisting of. In claim 23 pharmaceutical preparation recombinant or cell derived is not understood. The preambles of the claims are

inconsistent, see claims 57 and 58 both of which depend from claim 54.

The title of the invention is not aptly descriptive. A new  
5 title is required that is clearly indicative of the invention to which the claims are directed.

The following prior art pertinent to applicant's disclosure is made of record and not relied upon:

10 Cubicciotti (6,287,765) teaches detecting substances.

Fuhr (6,113,768) teaches treating liquid spaces.

Steel (Microarray Biochip Technology) teaches flow thru chips.

Any inquiry concerning this communication or earlier  
15 communications from the examiner should be directed to Ralph Gitomer whose telephone number is (703) 308-0732. The examiner can normally be reached on Tuesday-Friday from 8:00 am - 5:00 pm. The examiner can also be reached on alternate Mondays. If attempts to reach the examiner by telephone are unsuccessful, the  
20 examiner's supervisor, Gary Geist can be reached on (703) 308-1701. The fax phone number for this Art Unit is (703) 308-4556. Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-1234. For 24 hour access to patent  
25 application information 7 days per week, or for filing

Serial No. 09/750,348  
Art Unit 1623

-7-

applications electronically, please visit our website at  
www.uspto.gov and click on the button Patent Electronic Business  
Center for more information.

5

*Ralph Gitomer*

Ralph Gitomer  
Primary Examiner  
Group 1623

10

RALPH GITOMER  
PRIMARY EXAMINER  
GROUP 1200